

REMARKS/ARGUMENTS

The Applicants originally submitted Claims 1-9 in the application. In a previous response, the Applicants amended Claims 1, 4, 7 and 8, canceled Claims 6 and 9 without prejudice or disclaimer and added Claims 10 and 11. In the present response, the Applicants have amended Claims 1 and 11 and have added Claims 12-13. Accordingly, Claims 1-5, 7, 8, 10 and 11-13 are currently pending in the application.

The Examiner has indicated that independent Claim 1 would be allowable if rewritten to overcome the 35 C.F.R. §1.112, second paragraph rejection and that Claims 2-5, 7-8 and 11 would be allowable if rewritten to overcome the 35 C.F.R. §1.112, second paragraph rejection and include all of the limitations of the intervening base claims. (*See* Examiner's Final Rejection, page 5.) The Applicants present the present amendment to clearly point out the claimed invention to overcome the 112 rejection and place all of the pending claims in condition for allowance.

I. Formal Matters and Objections

The Examiner has objected to the specification for containing informalities. In response, the Applicants have amended paragraph 30 of the specification to correct this inadvertent error and appreciate the Examiner's diligence in finding and bringing this error to their attention. Accordingly, the Applicants respectfully request the Examiner to withdraw the objection of the specification.

II. Rejection of Claims 1 and 11 under 35 U.S.C. §112

The Examiner has rejected Claims 1 and 11 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention. In response, the Applicants have amended Claims 1 and 11 to more clearly point out the invention. Claims 1 and 11 have been amended to specify that M and N represent two constants that are preset. Thus, M and N are selected off-line and are selected to produce a desired behavior. Additionally, Claims 1 and 11 have been amended to specify that Max_dB_DN is also a pre-determined constant and is selected to represent a maximum peak value. The maximum peak value is in the decibel scale and is pre-selected to optimize the performance of the inverse filtering operation. Support for the amendment can be found, for example, in paragraphs 58-66, 83-84 and Figure 6 of the original specification that discusses spectral inverse filtering using the envelope determined by a well-chosen spectrum maxima. Accordingly, the Applicants respectfully request the Examiner to withdraw the §112 rejection with respect to Claims 1 and 11 and allow issuance thereof.

III. Rejection of Claim 10 under 35 U.S.C. §103

The Examiner has rejected Claim 10 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application Publication No. 2001/0001853 to Mauro, *et al.*, in view of U.S. Patent No. 5,822,732 to Tasaki. The Applicants respectfully disagree.

The Examiner relies on paragraph 39 of Mauro to disclose “calculating the autocorrelation from the inverse filtered signal to get an autocorrelation result” as recited in Claim 10. (*See* Examiner's Final Rejection, page 3.) Paragraph 39 of Mauro discloses using a normalized autocorrelation function to determine the presence of speech but does not teach or suggest performing autocorrelation **from an inverse filtered signal**. On the contrary, as noted by the Examiner, Mauro fails to teach or suggest “filtering the noise subtracted signal with a spectral

inverse filter to get an inverse filtered signal.” (*See* Examiner’s Final Rejection, page 4.) Instead, Mauro discloses using the normalized autocorrelation function as an option to determine the presence of speech on a formant residual signal, $e(n)$. (*See* paragraph 40.) The formant residual signal $e(n)$ is not an inverse filtered signal obtained by spectral inverse filter as claimed but is obtained by a short-term filter. (*See* paragraph 40.) Thus, Mauro fails to teach or suggest “calculating the autocorrelation from the inverse filtered signal to get an autocorrelation result” for which it has been cited.

Tasaki has not been cited to cure the above deficiency of Mauro but to disclose, among other things, “filtering the noise subtracted signal with a spectral inverse filter to get an inverse filtered signal.” (*See* Examiner’s Final Rejection, page 4.) Unlike the present invention, Tasaki is not directed to utterance detection but relates to improving synthetic speech quality. (*See* Tasaki, column 1, lines 18-21, and paragraph 13 of the original specification.) Additionally, the Applicants fail to find where Tasaki teaches or suggests using a spectral inverse filter to get an inverse filtered signal. On the contrary, as noted by the Examiner, Tasaki employs Linear Prediction Coefficient (LPC) filters to obtain a modified synthesized speech signal. (*See* Figure 1 of Tasaki and page 4 of the Examiner’s Final Rejection.) As noted by the Applicants, this differs from filtering a noise subtracted signal with a spectral inverse filter to get an inverse filtered signal. (*See* paragraph 27 of the original specification.) Accordingly, Tasaki also fails to teach or suggest each element for which it has been cited.

Thus, in view of the foregoing remarks, the cited references do not support the Examiner’s rejection of Claim 10 under 35 U.S.C. §103(a). More specifically, as argued above, the cited combination of Mauro and Tasaki fails to teach or suggest “filtering the noise subtracted signal with

a spectral inverse filter to get an inverse filtered signal" and "calculating the autocorrelation from the inverse filtered signal to get an autocorrelation result" as recited in Claim 10. The cited combination, therefore, fails to provide a *prima facie* case of obviousness of Claim 10. The Applicants therefore respectfully request the Examiner withdraw the rejection of Claim 10 and allow issuance thereof.

IV. Conclusion

In view of the foregoing amendment and remarks, the Applicants now see all of the Claims currently pending in this application to be in condition for allowance and therefore earnestly solicit a Notice of Allowance for Claims 1-5, 7, 8, 10 and 11-13.

The Applicants request the Examiner to telephone the undersigned attorney of record at (972) 480-8800 if such would further or expedite the prosecution of the present application. The Commissioner is hereby authorized to charge any fees, credits or overpayments to Deposit Account 08-2395.

Respectfully submitted,

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